



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

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4APT-APB

John S. Lyons, Director
Commonwealth of Kentucky
Natural Resources and
Environmental Protection Cabinet
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601-1403

Dear Mr. Lyons:

Thank you for your October 20, 2003, letter to the Environmental Protection Agency (EPA) requesting the use of an alternative air dispersion model in the maintenance plan for the redesignation of the Boyd County, Kentucky sulfur dioxide (SO₂) nonattainment area. The alternative model would be used to demonstrate protection of the SO₂ National Ambient Air Quality Standards (NAAQS) instead of the preferred model in title 40 of the Code of Federal Regulations (40 C.F.R.), part 51, Appendix W, Guideline on Air Quality Models.

Air quality modeling for regulatory application must be based on the preferred models identified in the Guideline on Air Quality Models (GAQM), except where the preferred model is inappropriate. The GAQM further specifies the conditions and procedures for selecting an alternative model and states that specific written approval of the EPA Regional Administrator to use the alternative model is required.

We have reviewed your rationale for using the the American Meteorological Society/EPA Regulatory Model Improvement Committee Model (AERMOD) as an alternative to the GAQM-preferred Industrial Source Complex (ISCST3) model. Our approval of AERMOD as an alternative model is based on the requirements of 40 C.F.R. part 51, Appendix W, Section 3.2. This section states that alternative model approval will normally be granted if one of three conditions is satisfied. The condition that is relevant to your request, condition #2, states that, "... (2) if a statistical performance evaluation has been conducted using measured air quality data and the results of that evaluation indicate the alternative model performs better for the application than a comparable model in appendix A," then the model could be approved as an alternative. In the past, we have interpreted this provision as requiring a site-specific comparative model evaluation study. However, given the special circumstances of your request we believe that a site-specific study is not necessary. You are requesting the use of a model which has been subjected to the rigor of a formal peer review and an extensive performance evaluation, and, in addition, it has been proposed by EPA to replace the existing preferred model. Therefore, we are convinced that there is ample evidence to suggest that if a site-specific study

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were conducted, for this application, AERMOD would exhibit superior performance over the EPA-preferred model (i.e., the Industrial Source Complex Model, ISCST3).


Therefore, in accordance with the provision of Section 3.2 of the GAQM, the proposed use of the AERMOD model (version 02222) is hereby approved by EPA for the maintenance plan demonstration in the redesignation State Implementation Plan for the Boyd County, Kentucky SO2 nonattainment area. This approval is consistent with the recommendation under Section 3.2 of 40 C.F.R. part 51, Appendix W.

Please recognize that until such time as EPA has formally adopted AERMOD as a preferred model in the GAQM, any time the Kentucky Division for Air Quality uses AERMOD results as a basis for a regulatory action, you are required to give public notice and to provide the opportunity for a public hearing on the use of this alternative model. This public notice and opportunity for hearing may be conducted concurrently and as part of the public participation process for the particular regulatory action.

If you have any questions regarding this letter, please contact Ms. Beverly Banister of EPA Region 4 at (404) 562-9326.

Sincerely,



 J. I. Palmer, Jr.
Regional Administrator